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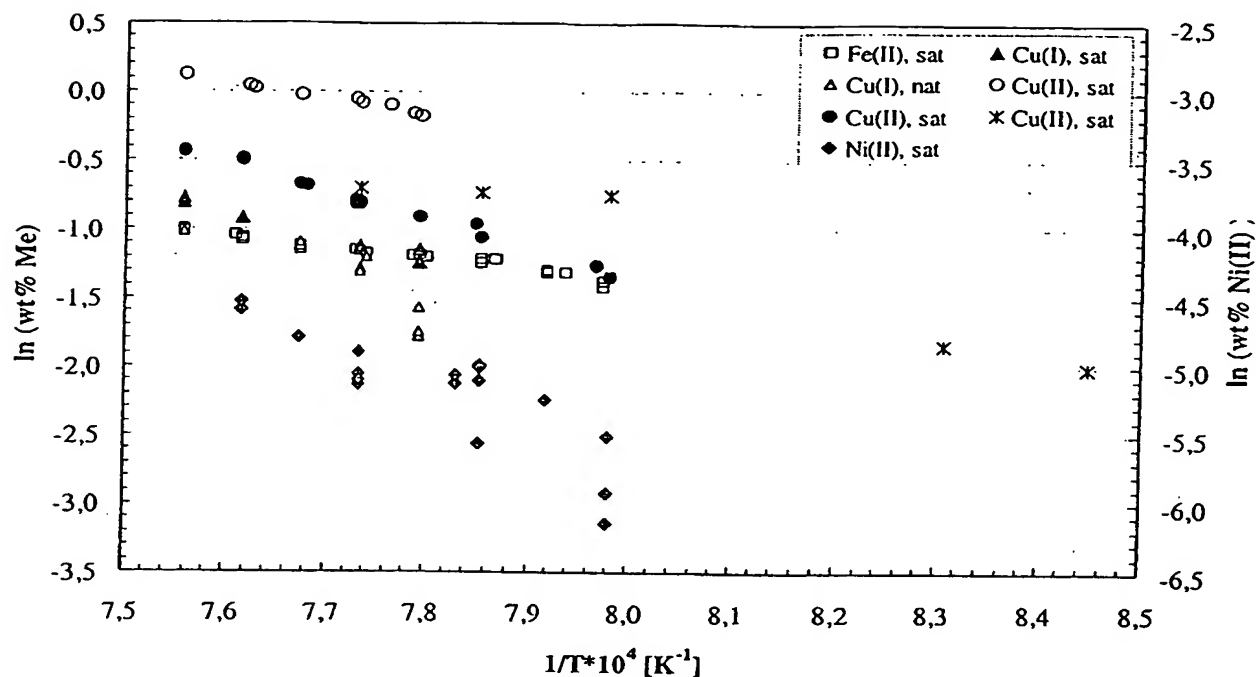


Fig. 1: Solubility of possible and assumed important inert anode components in molten cryolite melt as a function of temperature.

Fe(II): in Fe crucible.

Ni(II): in O₂ atmosphere

nat: in cryolite without alumina

Cu(I): in Cu crucible

Cu(II): in O₂ atmosphere

sat: in cryolite, alumina saturated

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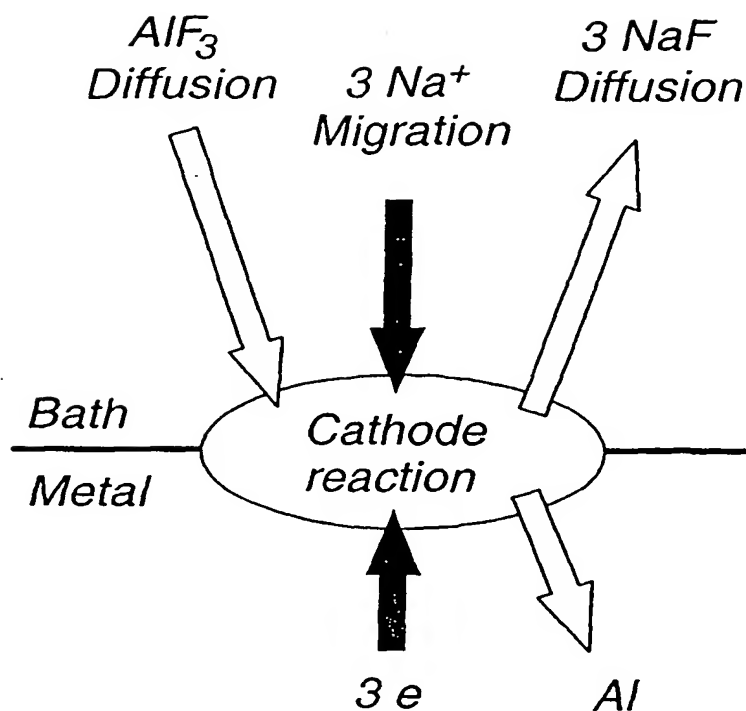


Fig. 2: Schematic representation of the cathode reaction in aluminium cells, assuming 100% current efficiency. Black arrows indicate current carriers.

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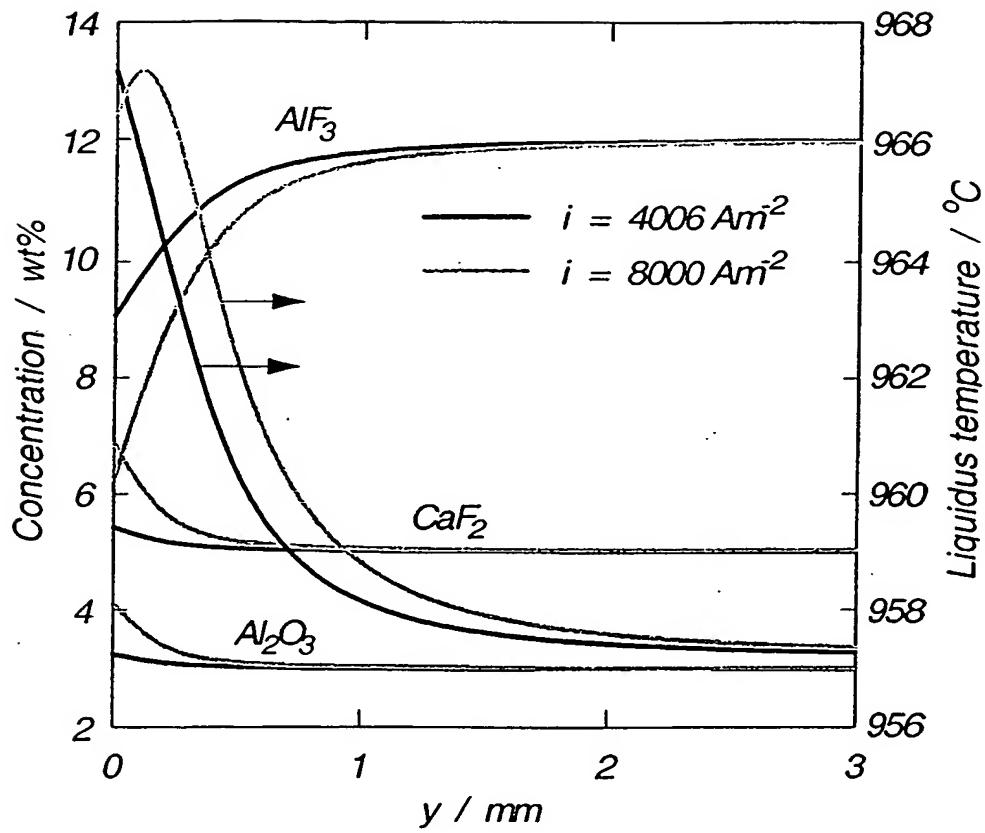


Fig. 3: Concentrations (left hand scale) and local liquidus temperatures (right hand scale) as a function of the distance from the cathode (x-axis).

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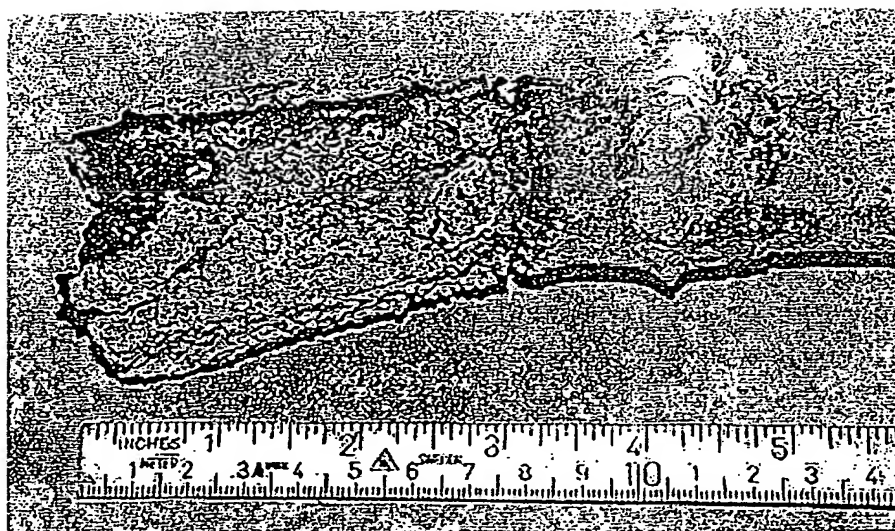


Fig. 4: Photograph of cathode deposits formed on a TiB_2 cathode during electrolysis of aluminium in cryolite-based electrolyte at 960°C for 48 hours.

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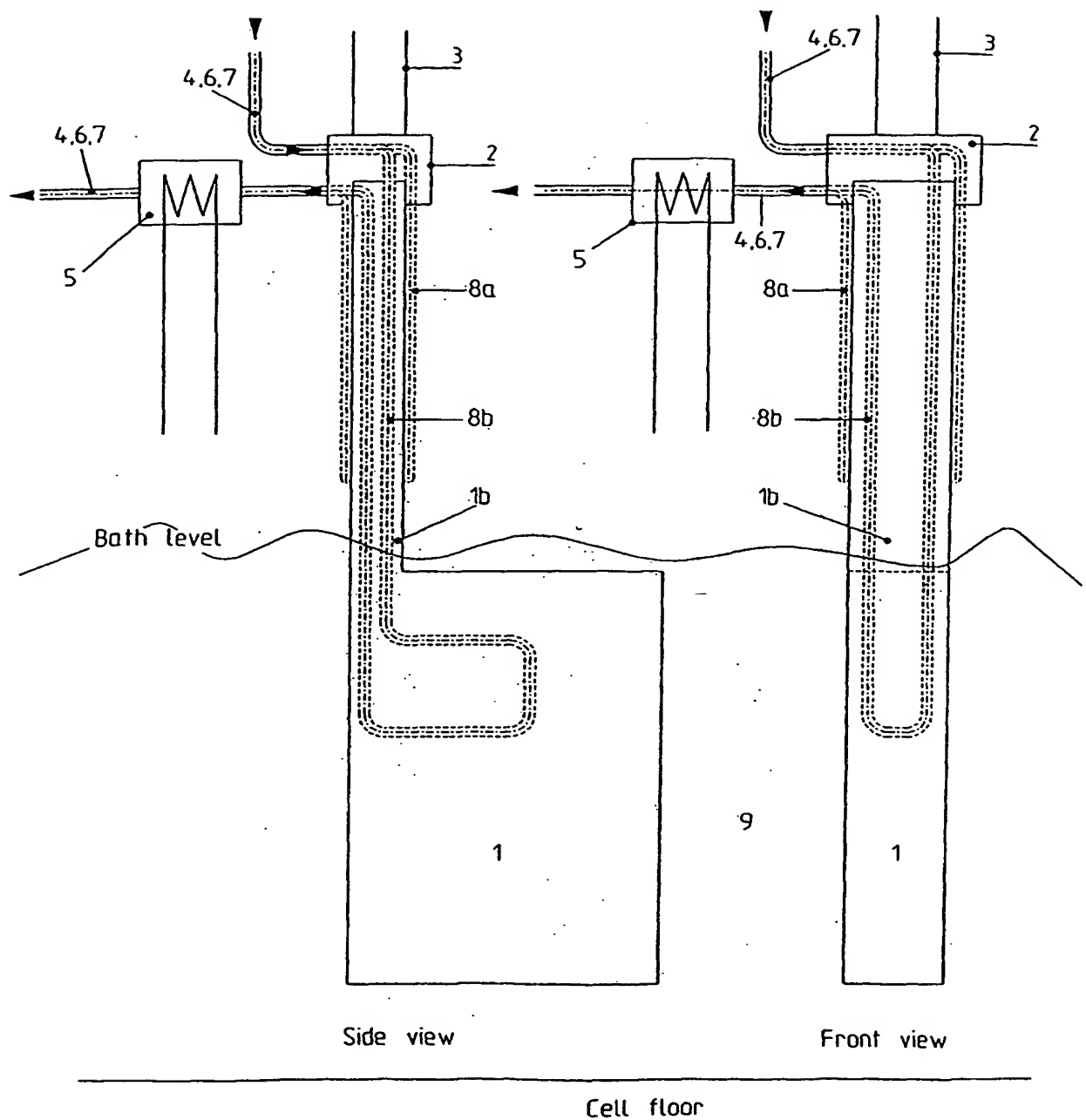


Fig. 5

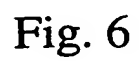


Fig. 6

